Babish *et al.*
Application No. 10/557,293
from International Application No. PCT/US04/16043
I.A. filing date: May 21, 2004

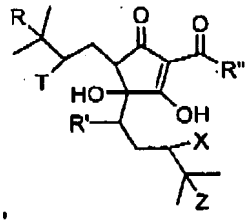
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (CURRENTLY AMENDED) A composition comprising a compound ~~fraction isolated or derived from hops~~ selected from the group consisting of reduced isoalpha acids, dihydro-isolalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids~~[[,]]~~; and a non-aspirin, non-steroidal anti-inflammatory compound.

2. (CANCELED)

3. (CURRENTLY AMENDED) The composition of claim 1, wherein ~~the~~ said ~~fraction isolated or derived from hops comprises a~~ compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~having~~ has the formula:



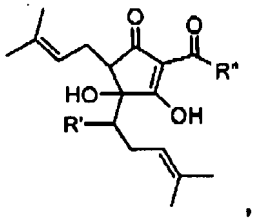
(Supragenus),

wherein R' is selected from the group consisting of carbonyl, hydroxyl, OR, and OCOR, wherein R is alkyl;

wherein R" is selected from the group consisting of $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, and $CH(CH_3)CH_2CH_3$;

and wherein R, T, X, and Z are independently selected from the group consisting of H, F, Cl, Br, I, and π orbital, with the proviso that if one of R, T, X, or Z is a π orbital, then the adjacent R, T, X, or Z is also a π orbital, thereby forming a double bond.

4. (CURRENTLY AMENDED) The composition of claim 1, wherein the composition ~~said fraction isolated or derived from hops~~ comprises a reduced isoalpha acid compound of Genus A having the formula:

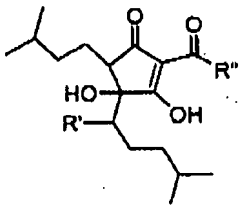


(Genus A),

wherein R' is selected from the group consisting of carbonyl, hydroxyl, OR, and OCOR, wherein R is alkyl;

and wherein R" is selected from the group consisting of $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, and $CH(CH_3)CH_2CH_3$.

5. (CURRENTLY AMENDED) The composition of claim 1, wherein the composition ~~fraction isolated or derived from hops~~ comprises a tetra-hydroisoalpha acid or a hexa-hydroisoalpha acid compound of Genus B having the formula:



(Genus B),

wherein R' is selected from the group consisting of carbonyl, hydroxyl, OR, and OCOR, wherein R is alkyl;

and wherein R" is selected from the group consisting of $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, and $CH(CH_3)CH_2CH_3$.

6. (CURRENTLY AMENDED) The composition of claim 1, wherein said compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids,

tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~ comprises a member ~~compound~~ selected from the group consisting of dihydro-isohumulone, dihydro-isocohumulone, dihydro-adhumulone, tetrahydro-isohumulone, tetrahydro-isocohumulone, tetrahydro-adhumulone, hexahydro-isohumulone, hexahydro-isocohumulone, and hexahydro-adhumulone.

7. (CURRENTLY AMENDED) The composition of claim 1, wherein the composition comprises about 0.5 to 10,000 mg of said compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~.

8. (CURRENTLY AMENDED) The composition of claim 7, wherein the composition comprises about 50 to 7,500 mg of the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~.

9. (CURRENTLY AMENDED) The composition of claim 1, wherein the composition comprises about 0.001 to 10 weight percent of the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~.

10. (CURRENTLY AMENDED) The composition of claim 9, wherein the composition comprises about 0.1 to 1 weight percent of the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~.

11. (ORIGINAL) The composition of claim 1, wherein the non-aspirin, nonsteroidal anti-inflammatory compound is selected from the group consisting of salicylic acid, methyl salicylate, difulunisal, salsalate, olsalazine, sulfasalazine, acetanilide, acetaminophen, phenacetin, mefenamic acid, sodium meclofenamate, tolmetin, ketorolac, diclofenac, ibuprofen, naproxen, sodium daproxen, fenoprofen, ketoprofen, flurbioprofen, oxaprozin, piroxicam, meloxicam, tenoxicam, ampiroxicam, droxicam, pivoxicam, phenylbutazone, oxyphenbutazone, anitpyrine, aminopyrine, dipyrone, celecoxib, rofecoxib, nabumetone, apazone, nimensulide, indomethacin, sulindac, and etodolac.

12. (ORIGINAL) The composition of claim 1, wherein the non-aspirin, nonsteroidal anti-inflammatory compound is selected from the group consisting of salicylic acid, methyl salicylate, ibuprofen, naproxen, sodium daproxen, fenoprofen, ketoprofen, flurbioprofen, and oxaprozin.

13. (ORIGINAL) The composition of claim 1, wherein the composition further comprises a pharmaceutically acceptable carrier.

14. (ORIGINAL) The composition of claim 1, wherein the composition is formulated for administration orally, topically, parenterally, or rectally.

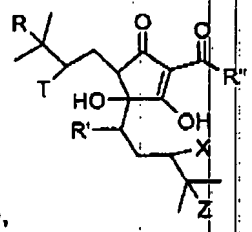
15. (CURRENTLY AMENDED) A composition comprising a reduced isoalpha acid ~~isolated from hops~~ and a non-steroidal anti-inflammatory compound.

16. (CURRENTLY AMENDED) The ~~the~~ composition of claim 15, wherein the reduced isoalpha acid is selected from dihydro-isohumulone, dihydro-isocohumulone, and dihydro-adhumulone.

17. (CURRENTLY AMENDED) A [[a]] method of producing an analgesic and an anti-ulcerogenic ~~ananti-ulcerogenic~~ effect in a mammal, comprising administering to

the mammal an amount of a compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~ sufficient to produce an analgesic and anti-ulcerogenic effect and a nonsteroidal anti-inflammatory compound, whereby administration of said compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~ reduces gastric toxicity associated with said non-steroidal anti-inflammatory compound.

18. (CURRENTLY AMENDED) The method of claim 17, wherein the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~said fraction isolated derived from hops~~ comprises ~~of~~ a member of supragenus having the formula:



(Supragenus),

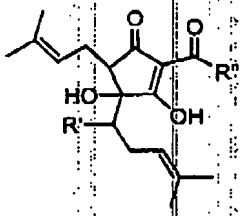
wherein R' is selected from the group consisting of carbonyl, hydroxyl, OR, and OCOR, wherein R is alkyl;

wherein R" is selected from the group consisting of $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, and $CH(CH_3)CH_2CH_3$;

and wherein R, T, X, and Z are independently selected from the group consisting of H, F, Cl, Br, I, and π orbital, with the proviso that if one of R, T, X, or Z is a π

orbital, then the adjacent R, T, X, or Z is also a π orbital, thereby forming a double bond.

19. (CURRENTLY AMENDED) The method of claim 17, wherein said compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~ comprises a member ~~compound~~ of Genus A having the formula:

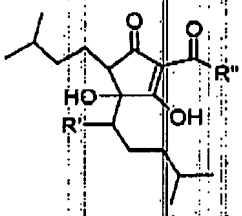


(Genus A),

wherein R' is selected from the group consisting of carbonyl, hydroxyl, OR, and OCOR, wherein R is alkyl;

and wherein R" is selected from the group consisting of $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, and $CH(CH_3)CH_2CH_3$.

20. (CURRENTLY AMENDED) The method of claim 17, wherein the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~ comprises a member ~~compound~~ of Genus B having the formula:



(Genus B),

wherein R' is selected from the group consisting of carbonyl, hydroxyl, OR, and OCOR, wherein R is alkyl;

and wherein R" is selected from the group consisting of $CH(CH_3)_2$, $CH_2CH(CH_3)_2$, and $CH(CH_3)CH_2CH_3$.

21. (CURRENTLY AMENDED) The method of claim 17, wherein said compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~ comprises a member ~~compound~~ selected from the group consisting of humulone, cohumulone, adhumulone, isohumulone, isocohumulone, isoadhumulone, dihydro-isohumulone, dihydro-isocohumulone, dihydro-adhumulone, tetrahydro-isohumulone, tetrahydro-isocohumulone, tetrahydro-adhumulone, hexahydro-isohumulone, hexahydro-isocohumulone, and hexahydro-adhumulone.

22. (CURRENTLY AMENDED) The method of claim 17, wherein the composition comprises about 0.5 to 10000 mg of said compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~.

23. (CURRENTLY AMENDED) The method of claim 22, wherein the composition comprises about 50 to 7500 mg of the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~hops derivatives~~.

24. (CURRENTLY AMENDED) The method of claim 17, wherein the composition comprises about 0.001 to 10 weight percent of the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~hops derivatives~~.

25. (CURRENTLY AMENDED) The method of claim 24, wherein the composition comprises about 0.1 to 1 weight percent of the compound selected from the group

consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~hops derivatives~~.

26. (ORIGINAL) The method of claim 17, wherein the nonsteroidal anti-inflammatory compound is selected from the group consisting of salicylic acid, methyl salicylate, difulunisal, salsalate, olsalazine, sulfasalazine, acetanilide, acetaminophen, phenacetin, mefenamic acid, sodium meclofenamate, tolmetin, ketorolac, diclofenac, ibuprofen, naproxen, sodium daproxen, fenoprofen, ketoprofen, flurbioprofen, oxaprozin, piroxicam, meloxicam, tenoxicam, ampiroxicam, droxicam, pivoxicam, phenylbutazone, oxyphenbutazone, anitpyrine, aminopyrine, dipyrone, celecoxib, rofecoxib, nabumetone, apazone, nimensulide, indomethacin, sulindac, and etodolac.

27. (ORIGINAL) The method of claim 26, wherein the nonsteroidal anti-inflammatory is selected from the group consisting of salicylic acid, methyl salicylate, ibuprofen, naproxen, sodium daproxen, fenoprofen, ketoprofen, flurbioprofen, and oxaprozin.

28. (ORIGINAL) The method of claim 17, wherein the composition further comprises a pharmaceutically acceptable carrier.

29. (ORIGINAL) The method of claim 17, wherein the composition is formulated for administration orally, topically, parenterally, or rectally.

30. (CURRENTLY AMENDED) The method of claim 17, wherein the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~ is administered concomitantly with said non-steroidal anti-inflammatory compound.

31. (CURRENTLY AMENDED) The method of claim 17, wherein said compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or~~

~~derived from hops~~ is administered after the administration of said non-steroidal anti-inflammatory compound.

32. (CURRENTLY AMENDED) The method of claim 17, wherein said compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~ is administered before the administration of said non-steroidal anti-inflammatory compound.

33. (CURRENTLY AMENDED) The method of reducing gastric toxicity associated with a non-steroidal anti inflammatory compound, comprising administering a compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~ to an individual being treated with a non-steroidal anti-inflammatory compound.

34. (CURRENTLY AMENDED) A method of reducing gastroenteropathy, comprising administering a compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids ~~fraction isolated or derived from hops~~ to an individual exhibiting a sign or symptom associated with gastroenteropathy

35. (ORIGINAL) The method of claim 34, wherein said gastroenteropathy involves ulceration.

36. (ORIGINAL) The method of claim 35, wherein said ulceration is induced food, an herb, bacteria, fungi or a drug.

37. (NEW) A composition according to claim 1, wherein the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids is derived from hops.

38. (NEW) The composition of claim 15, wherein reduced isoalpha acid is derived from hops.

39. (NEW) The method of claim 17, wherein the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids is derived from hops.

40. (NEW) The method of claim 33, wherein the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids is derived from hops.

41. (NEW) The method of claim 34, wherein the compound selected from the group consisting of reduced isoalpha acids, dihydro-isoalpha acids, tetra-hydroisoalpha acids, and hexa-hydroisoalpha acids is derived from hops.